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Leonard S. Sawicki
Director
FCC Affairs

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January 28, 1997

Mr. William F. Caton
Secretary
Federal Communications Commission
Room 222
1919 M Street NW
Washington, D.C. 20554

Re: CC Docket 96-45: Universal Service

Dear Mr. Caton:

Yesterday, MCI sent ten copies of each of the attached documents to the FCC Universal Service staff. These are copies of the hand-outs used at the public cost model demonstrations held January 13.

Please include this letter and the enclosed copy on the record of this proceeding.

Sincerely,

Leonard S. Sawicki

Leonard S. Sawicki

Attachments

The Hatfield Model Release 3

Overview of Changes

Model Developed by
Hatfield Associates
for AT&T and MCI

Hatfield Model Demonstration to
Joint Board on Universal Service
Washington, DC
January 13, 1997

Hatfield Model Release 3

Enhancements and Changes to Release 2

- **Results displayed by wire center and Census Block Group (CBG), as well as by density zone**

Hatfield Model Release 3

Enhancements and Changes to Release 2

- Results Displayed by wire center and Census Block Group (CBG), as well as by density zone

- **Additional density zones (9 versus 6)**
  - **User definable**
  - **Default divides highest current zone into three.**

Hatfield Model Release 3

Enhancements and Changes to Release 2

- **Assignment of CBGs to wire centers based on NPA-NXXs serving CBG**

Hatfield Model Release 3

Enhancements and Changes to Release 2

- Assignment of CBGs to wire centers based on NPA-NXXs serving CBGs

- **Refined estimate of number of residence and business lines in each CBG**

Hatfield Model Release 3

Enhancements and Changes to Release 2

- **Refined treatment of feeder/distribution network**
  - **Distribution cable numbers and lengths**
  - **Long loops**
  - **Drops and Network Interface Devices (NIDs)**
  - **Calculation of fill factor at Main Distributing Frame (MDF)**

Hatfield Model Release 3

Enhancements and Changes to Release 2

- **Structure sharing percentages by density zone**

Hatfield Model Release 3

Enhancements and Changes to Release 2

- Structure sharing percentages by density zone
- **Refined treatment of switching systems**
  - **More realistic per-line costs**
  - **Line card fill factor**
  - **More detailed treatment of wire center costs**

Hatfield Model Release 3

Enhancements and Changes to Release 2

- **Refined treatment of interoffice transport network**
  - **Interoffice fiber rings**
  - **Sharing of structure with feeder**

Hatfield Model Release 3

Enhancements and Changes to Release 2

- **Depreciation calculation that reflects mid-year investments, net salvage value, exclusion of land**

Hatfield Model Release 3

Enhancements and Changes to Release 2

- Depreciation calculation that reflects mid-year investments, net salvage value, exclusion of land

- **Addition of buildings, vehicles, and work equipment to General Support**

Hatfield Model Release 3

Enhancements and Changes to Release 2

- Depreciation calculation that reflects mid-year investments, net salvage value, exclusion of land
- Addition of buildings, vehicles, and work equipment to General Support

- **Additional state-specific adjustments to labor costs and, potentially, other inputs**

Hatfield Model Release 3

Enhancements and Changes to Release 2

- **Correction of minor bugs in Release 2, e.g.,**
  - **Multiple Serving Area Interfaces where needed**
  - **Multiple conduits to house multiple cables**
  - **Elimination of conduit sharing**

Hatfield Model Release 3

Enhancements and Changes to Release 2

- **Improved model structure**

Hatfield Model Release 3

Enhancements and Changes to Release 2

- Improved model structure

- **Improved output report formats**

The Hatfield Model v2.2.2

Modeling the Forward-Looking Economic Costs of Universal Service and Unbundled Network Elements

Model Developed by
Hatfield Associates
for AT&T and MCI

Hatfield Model Demonstration to
Joint Board on Universal Service
Washington, DC
January 13,1997

Presentation Overview

- What cost standard should be used in determining the costs of Universal Service and Unbundled Network Elements?
- What is the Hatfield Model?
- How does the Hatfield Model work?
- Sample outputs from the Hatfield Model
- Comparison of Hatfield Model results with those from other proxy models

Efficient Costing Standards

- Federal-State Joint Board has determined "forward-looking economic cost" as the appropriate standard for calculating universal service support
- FCC and numerous State PUCs have also determined "forward-looking economic cost" as the appropriate standard for the pricing of:
  - Unbundled network elements
  - Interconnection / collocation
  - Transport and termination

Forward-looking Economic Cost

- Includes all of the long run incremental costs that a LEC will incur to provide a complete service or network element (these costs are sometimes called TSLRIC or TELRIC)
  - Variable costs
  - Service- or element-specific fixed costs
  - A reasonable competitive profit
- Also includes a reasonable allocation of efficient forward-looking joint and common costs

Modeling Economic Costs

- Because economic costs are forward-looking and must be calculated for all LEC services and network elements, proxy models are superior
  - Minimize data collection requirements
  - Joint and common costs can be treated consistently across services and elements
  - Provides consistent, direct treatment of costs across different study areas and carriers
- Historical or embedded cost analyses will not reflect forward-looking or efficient cost levels

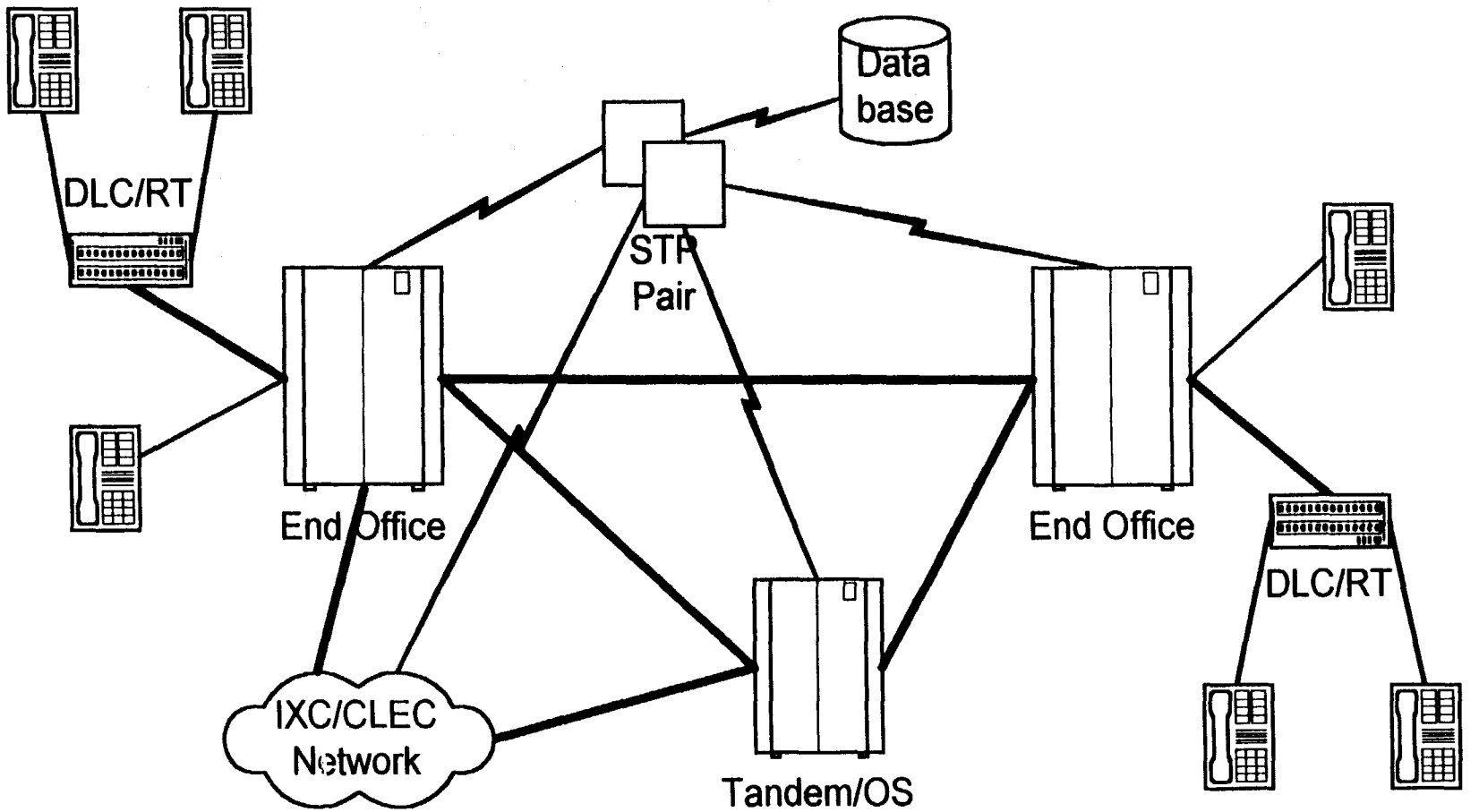
What is the Hatfield Model?

- A model of a reconstructed local exchange network that assumes:
  - Modern technology will be employed in efficient network configurations
  - Wire centers will remain in their current places
  - All narrowband demand in area will be served
  - Carrier will operate using efficient practices
- The cost of such a network would equal that incurred by an efficient competitor entering the market

What Does Hatfield Calculate?

- Cost of Unbundled Network Elements
  - Loop/NID by Density Zone
  - Local Switching
  - Tandem Switching
  - Interoffice Transmission
  - Signaling Systems and Databases
  - Operations Support Systems
  - Operator Systems and Directory Assistance
- Cost of universal service by Density Zone
- Cost of other Services as defined

Local Network Modeled



How Hatfield Builds Costs

- Determines customer demand
  - By geographical location, customer and service type
- Calculates efficient facilities investment required to
  - Materials / placement / installation
- Calculates capital carrying cost
  - Depreciation / return / taxes
- Adds network operations and support expenses
- Adds share of Corporate overheads
- Adds sales/retail expense as appropriate